BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

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| In the Matter of the Application of<br><br>HAWAIIAN ELECTRIC COMPANY, INC., HAWAII ELECTRIC LIGHT COMPANY, INC., and MAUI ELECTRIC COMPANY, LIMITED<br><br>For approval to modify the PIM Tariffs for changes in the measurement of the SAIDI and SAIFI PIMs and approval to adjust the Call Center Performance PIM target for Hawaii Electric Light Company, Inc. | DOCKET NO. 2019-0110 |

DECISION AND ORDER NO. 37600

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DECISION AND ORDER

By this Decision and Order,[1] the Commission addresses the remaining issue in this proceeding and grants the Companies' first request as set forth in their Application.[2] Specifically, the Companies may use an adjusted Institute of Electrical and

[1]The Parties to this proceeding are HAWAIIAN ELECTRIC COMPANY, INC., HAWAII ELECTRIC LIGHT COMPANY, INC., MAUI ELECTRIC COMPANY, LTD. (collectively "Hawaiian Electric" or "the Companies") and the DIVISION OF CONSUMER ADVOCACY ("Consumer Advocate"), an ex officio Party, pursuant to Hawaii Revised Statutes § 269-51 and Hawaii Administrative Rules § 16-601-62(a).

[2]"Hawaiian Electric Companies Application; Exhibits 1-3; Verification; and Certificate of Service," filed May 24, 2019 ("Application"), at 2.

Electronics Engineers ("IEEE") Standard for normalizing events for System Average Interruption Duration Index ("SAIDI") and System Average Interruption Frequency Index ("SAIFI") calculations for purposes of setting targets and measuring the Companies' performance for applicable Performance Incentive Mechanisms ("PIMs")(collectively, the "SAIDI and SAIFI PIMs").

## I.

## BACKGROUND

On May 24, 2019, the Companies filed their Application in this Docket, seeking:

1. Use of an adjusted IEEE Standard for normalizing events for SAIDI and SAIFI calculations, which factors in reliability performance for all days of the year;

2. Exclusion of Scheduled Maintenance Interruptions from calculations of the targets, deadbands, and Measured Performance for the SAIDI and SAIFI PIMs;

3. Exclusion of proactive de-energization interruptions performed for public safety reasons or to avoid equipment damage from calculation of the targets, deadbands, and Measured Performance for the SAIDI and SAIFI PIMs;

4. For the SAIDI and SAIFI PIMs, financial penalties to only occur if performance exceeds the deadband for two consecutive years;

5. SAIDI, SAIFI, and Call Center Performance PIM targets, deadbands, and financial incentives to be adjusted only upon issuance of a final rate case order;

6. For HELCO, an adjustment to its current Call Center Performance to incorporate certain data corrections; and

7. Waiver from the current PIM Provision tariff proration requirements so that the requested changes 1, 2, 3 and 6 above would apply to the targets, deadbands and Measured Performance for the SAIDI, SAIFI, and Call Center Performance PIMs, as applicable, for the entire 2019 Evaluation Period.[3]

On November 8, 2019, the Companies filed a reply to the Consumer Advocate's statement of position, in which the Companies reiterated their original seven requests, and included an additional eighth request approving an exclusion for interruptions caused by vandalism: "In this filing, the Companies are formally requesting to exclude the interruptions caused by the October 18, 2019 vandalism incident from their calculations of Measured Performance for the SAIDI and SAIFI PIMs for the 2019 period."[4]

On February 10, 2020, the Commission issued Decision and Order No. 36996 ("D&O 36996"), in which the Commission resolved the Companies' request nos. 2-8 as follows: the Commission denied request nos. 2, 3, 4, 5, and 8; granted request no. 6; and granted request no. 7 to the extent it related to request no. 6.[5] Regarding request no. 1, the Commission found that this request warranted further investigation and stated that it would establish

[3]Application at 2-3 (collectively, "request nos.").

[4]Companies RSOP at 15-16.

[5]D&O 36996 at 39-40.

a procedural schedule to further investigate this issue in this proceeding.[6]

On March 6, 2020, the Commission issued Order No. 37029 ("Order No. 37029"), which established a procedural schedule to govern the remainder of this proceeding.[7]

Pursuant to Order No. 37029, the Consumer Advocate issued Supplemental Information Requests ("SIRs") to the Companies on April 30, 2020, to which the Companies responded on May 19, 2020. Thereafter, both Parties filed simultaneous Statements of Position on June 17, 2020,[8] and Reply Statements of Position on July 8, 2020.[9]

Based on the schedule set forth in Order No. 37029, no further procedural steps are contemplated, and this Docket is ready for decision making.

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[6]See D&O 36996 at 15-16.

[7]Order No. 37029, "Establishing Procedural Schedule to Govern the Remainder of this Proceeding," filed March 6, 2020.

[8]"Hawaiian Electric Companies' Statement of Position; and Certificate of Service," filed June 17, 2020 ("Hawaiian Electric SOP"); and "Division of Consumer Advocacy's Statement of Position on Hawaiian Electric Companies' Request No. 1," filed June 17, 2020 ("CA SOP").

[9]"Hawaiian Electric Companies Reply Statement of Position; and Certificate of Service," filed July 8, 2020 ("Hawaiian Electric RSOP"); and "Division of Consumer Advocacy's Reply Statement of Position on Hawaiian Electric Companies' Request No. 1," filed July 8, 2020 ("CA RSOP").

## II.

## DISCUSSION

As noted in D&O 36996:

> SAIDI and SAIFI are indices which measure the duration and frequency of system interruptions, respectively, and are commonly used in the electricity industry as metrics for the reliability of the provision of electrical energy services. These indices serve as the metrics for determining whether a financial penalty is assessed against each of the Companies for their service during an evaluation period (calendar year). Currently, the SAIDI and SAIFI PIMs are based on an IEEE Standard 1366 methodology ("IEEE 1366 methodology").[10]
>
> In measuring reliability, certain factors are taken into consideration, such as that certain days may have much worse electric service reliability than the rest of the year, and that such events should not disproportionately affect the electric system's overall performance reliability evaluation, especially where such events may be outside of the utility's reasonable control. "Accordingly, methods have been developed to distinguish exceptionally bad days for reliability, called major event days ('MEDs'), from 'normal' days." (A MED "is defined as a day in which the daily system SAIDI exceeds a Major Event Day threshold value ('$T_{MED}$')."[11] (internal citations omitted).

[10] D&O 36996 at 9.

[11] D&O 36996 at 9-10.

In D&O 36996, the Commission observed that Hawaiian Electric had presented its case in its Application that the current methodology used to calculate its performance under its SAIDI and SAIFI PIMs, i.e., the IEEE 1366 methodology, does not accurately assess the Companies' historical performance. Specifically, the Companies' contend that the IEEE 1366 methodology "utilizes a '2.5 Beta Method' to classify MEDs and normal days, which typically results in 2.3 days per year on average being classified as MEDs for an average utility."[12] However, the Companies' maintain that "Oahu, Hawaii [Island], Molokai, and Lanai all have fewer than 2.3 days, on average, classified as MEDs[,]"[13] and that the IEEE 1366 methodology simply "discards any day in the data set that is a [zero event day ('ZED')] . . . ."[14] Hawaiian Electric notes that a ZED "is very rare for larger electrical systems, typically found in mainland utilities[,]" but argues that "'for very small electric systems like Molokai and Lanai, ZEDs are much more common . . . [and] ZEDs account for more than 90% of Molokai's and Lanai's days each year and have a significant impact on the [MED threshold] and

[12]D&O 36996 at 11 (citing Application at 12-13).

[13]D&O 36996 at 10 (citing Application at 12).

[14]D&O 36996 at 10-11 (citing Application at 13).

classification of MEDs.'"[15] Consequently, Hawaiian Electric maintains that the use of the IEEE 1366 methodology distorts the Companies' performance for its Molokai and Lanai Divisions, as performance is based upon their worst 10% days of the year.[16]

Figure 1-2 from the Application, cited in D&O 36996 and reproduced below, reflects the number of ZEDs experienced by the Companies between 2009 and 2018:[17]

**Figure 1-2: Number of Days with No Sustained Interruptions (Zero Event Days)**

| Year | MECO | | | HELCO | HECO |
|---|---|---|---|---|---|
| | Maui | Molokai | Lanai | Hawaii | Oahu |
| 2009 | 68 | 340 | 350 | 30 | 4 |
| 2010 | 81 | 342 | 351 | 22 | 3 |
| 2011 | 70 | 341 | 336 | 17 | 6 |
| 2012 | 84 | 344 | 336 | 11 | 7 |
| 2013 | 88 | 339 | 348 | 19 | 1 |
| 2014 | 64 | 331 | 332 | 20 | 1 |
| 2015 | 77 | 329 | 336 | 23 | 3 |
| 2016 | 89 | 329 | 329 | 24 | 4 |
| 2017 | 76 | 334 | 331 | 41 | 2 |
| 2018 | 89 | 333 | 341 | 39 | 1 |

To address this, the Companies propose using a more complex methodology, which they represent is the "'full formula originally proposed . . . to calculate $T_{MED}$ instead of the

[15]D&O 36996 at 10-11 (citing Application at 13-14)(internal citations omitted).

[16]See D&O 36996 at 11 (citing Application at 14).

[17]See D&O 36996 at 12 (citing Application at 14).

simplified version adopted [by IEEE 1366] that assumes the data set has not (or an immaterial number of) ZEDs.'"[18] According to the Companies' calculations, accounting for more ZEDs corresponds to a greater $T_{MED}$ reduction (Figure 1-3, reproduced below) and significantly reduces the number of MEDs on Molokai and Lanai (Figure 1-4, reproduced below)[19]:

**Figure 1-3: $T_{MEDs}$ Using Current vs. Adjusted IEEE Methods**

| Year | MECO | | | | | | HELCO | | HECO | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Maui | | Molokai | | Lanai | | Hawaii | | Oahu | |
| | Cur | Adj | Cur | Adj | Cur | Adj | Cur | Adj | Cur | Adj |
| 2009 | 11.99 | 8.8 | 456.93 | 47.4 | 86.05 | 6.86 | 14.75 | 13.46 | 8.35 | 8.28 |
| 2010 | 14.15 | 10.73 | 455.79 | 40.96 | 86.41 | 6.56 | 13.22 | 12.23 | 7.79 | 7.71 |
| 2011 | 12.17 | 9.56 | 745.99 | 59.5 | 72.3 | 6.12 | 12.63 | 11.83 | 7.75 | 7.68 |
| 2012 | 11.97 | 9.62 | 396.52 | 40.66 | 128.36 | 10.52 | 12.11 | 11.46 | 6.82 | 6.74 |
| 2013 | 11.64 | 9.52 | 380.69 | 41.54 | 127.74 | 10.69 | 10.64 | 10.17 | 6.29 | 6.23 |
| 2014 | 11.04 | 9.16 | 480.61 | 52.68 | 136.61 | 10.78 | 11.02 | 10.59 | 5.63 | 5.58 |
| 2015 | 9.85 | 8.22 | 743.59 | 77.64 | 271.63 | 19.28 | 12.07 | 11.64 | 5.33 | 5.29 |
| 2016 | 12.61 | 10.49 | 687.2 | 74.59 | 274.47 | 20.83 | 13.61 | 13.11 | 5.17 | 5.13 |
| 2017 | 12.17 | 10.01 | 974.71 | 107.2 | 154.93 | 14.32 | 14.51 | 13.93 | 4.76 | 4.73 |
| 2018 | 13.05 | 10.75 | 1,098.89 | 120.08 | 222.41 | 17.91 | 14.97 | 14.18 | 4.63 | 4.61 |
| 2019 | 16.36 | 13.42 | 1,387.57 | 145.23 | 238.24 | 20.04 | 16.87 | 15.81 | 4.81 | 4.79 |

[18]D&O 36996 at 12 (citing Application at 15).

[19]D&O 36996 at 13-14 (citing Application at 16-17).

**Figure 1-4: MEDs Using Current vs. Adjusted IEEE Methods**

| Year | MECO | | | | | | HELCO | | HECO | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Maui | | Molokai | | Lanai | | Hawaii | | Oahu | |
| | Cur | Adj | Cur | Adj | Cur | Adj | Cur | Adj | Cur | Adj |
| 2009 | 3 | 5 | - | - | - | 1 | 1 | 1 | - | - |
| 2010 | - | - | - | 6 | - | 2 | 2 | 2 | 1 | 1 |
| 2011 | 2 | 2 | - | - | 2 | 9 | - | - | 2 | 2 |
| 2012 | 2 | 2 | 1 | 2 | - | 1 | - | - | 1 | 1 |
| 2013 | 2 | 2 | - | 5 | - | 3 | 5 | 5 | 1 | 2 |
| 2014 | 3 | 3 | - | 3 | 1 | 9 | 5 | 5 | - | - |
| 2015 | 7 | 8 | - | 1 | - | 4 | 3 | 3 | 3 | 3 |
| 2016 | 3 | 3 | - | 2 | - | 3 | 1 | 1 | 3 | 3 |
| 2017 | 3 | 4 | - | - | 1 | 3 | 2 | 2 | 3 | 3 |
| 2018 | 4 | 4 | - | 4 | - | 5 | - | - | 2 | 2 |
| Total | 29 | 33 | 1 | 23 | 4 | 40 | 19 | 19 | 16 | 17 |
| AVG | 2.9 | 3.3 | 0.1 | 2.3 | 0.4 | 4.0 | 1.9 | 1.9 | 1.6 | 1.7 |

In sum, the Companies argue that an adjusted IEEE 1366 methodology should be approved, as it would better determine the Companies' performance under the SAIDI and SAIFI PIMs.[20]

In the Consumer Advocate initial statement of position, filed October 18, 2019, the Consumer Advocate did not specifically address this request.[21] Upon being provided an additional opportunity to address this request, the Consumer Advocate acknowledges that "the Companies' proposed methodology to account

[20]See D&O 36996 at 14-15 (citing "Hawaiian Electric Companies Reply Statement of Position; and Certificate of Service," filed November 8, 2019, at 15).

[21]See "Division of Consumer Advocacy's Statement of Position," filed October 18, 2019.

for ZEDs has merit," but voices general objection to this request, citing the "on-going work and efforts in Docket No. 2018-0088[,]" and the consideration that deviating from the IEEE 1366 methodology may make benchmarking the Companies' performance to mainland peer utilities more complicated.[22]

Upon review of the record, including the Application, and SIRs, statements of position, and reply statements of position filed pursuant to Order No. 37029, the Commission finds and concludes that the Companies' request to utilize a modified IEEE 1366 methodology for purposes of calculating its performance for the SAIDI and SAIFI PIMs is reasonable under the circumstances. In support, the Commission takes note of the following.

First, the Commission observes that Hawaiian Electric's estimates and calculations in support of its request are not contested. While the Consumer Advocate provides general objections and states that it has not seen "sufficient information or justification for [it] to change its position,"[23] it has also acknowledged that the Companies' proposed methodology "has merit,"[24] and has not identified any particular flaw or

[22]CA SOP at 7-8.

[23]CA RSOP at 4.

[24]CA SOP at 7.

concern, other than it may make comparability with peer mainland utilities who use the IEEE 1366 methodology more complicated.[25]

After reviewing the Companies' information, it appears that the IEEE 1366 methodology may not be the most appropriate means to evaluate the Companies' performance for purposes of the SAIDI and SAIFI PIMs. The SAIDI and SAIFI PIMs evaluate the Companies' annual performance in the area of service reliability and assess a penalty if reported performance is below a certain threshold, as measured by SAIDI and SAIFI.[26] Accurate measurement of the Companies' performance is important for the fair and efficient implementation of these PIMs. To the extent the existing methodology unreasonably excludes pertinent data or otherwise reflects targets and/or performance that are not accurate, this begins to distort the intent of the PIM and diminishes its efficacy. As reflected in the Companies' Application, a number of Hawaiian Electric's service territories experience atypical numbers of ZEDs, which are discounted under the current IEEE 1366 methodology. The Molokai and Lanai Divisions are particularly affected, as approximately 90% of their days are ZEDs.

[25]See CA SOP at 8; and CA RSOP at 5.

[26]See D&O 36996 at 3; see also, In re Public Util. Comm'n, Docket No. 2013-0141, Order No. 34514, "Establishing Performance Incentive Measures and Addressing Outstanding Schedule B Issues," filed April 27, 2017.

Consequently, it appears that the current IEEE 1366 methodology is not suited for capturing the performance of smaller electrical systems, especially those such as Molokai and Lanai.

Second, the Commission's recent decision in Docket No. 2018-0088, the PBR investigation, did not modify the SAIDI and SAIFI PIMs.[27] In this regard, the Commission notes that the Consumer Advocate had supported its opposition, in part, by noting the ongoing investigation in Docket No. 2018-0088. In light of D&O 37507, which adopts a PBR Framework, but leaves the SAIDI and SAIFI PIMs unchanged, there is no reason to delay addressing this issue now in this docket, nor would it be prudent to transfer this issue to Docket No. 2018-0088. Rather, the Commission finds that it is more efficient to resolve this issue here, as the record on this issue has been developed in this docket.

That being said, the Commission takes administrative notice of the fact that the PBR Framework approved in Docket No. 2018-0088 includes a Post-D&O Working Group to "continuously introduce, examine, and vet new Performance Mechanism proposals, as well as explore modifications

[27]See In re Public Util. Comm'n, Docket No. 2018-0088, Decision and Order No. 37507, filed December 23, 2020 ("D&O 37507"), at 149-50.

to existing PIMs."[28] Thus, while there is no reason to defer resolution of Hawaiian Electric's request no. 1, given the record in this proceeding, the Commission clarifies that the SAIDI and SAIFI PIMs, as well as all other PIMs applicable to Hawaiian Electric, may be further examined and potentially modified in the Post-D&O Working Group in Docket No. 2018-0088.

Third, the estimated impact to customers does not appear to be excessive. When asked to estimate the change in financial penalties, if any, that would result from application of the Companies' proposed modified IEEE methodology, the Companies provided the following estimates for 2019:[29]

| 2019 SAIDI (Current) | Preliminary Performance | Target | Deadband | Preliminary Financial Penalty |
|---|---|---|---|---|
| Hawaiian Electric | 104.02 | 99.23 | 8.96 | $- |
| Maui Electric[2] | 154.10 | 125 .59 | 29.00 | $- |
| Hawai'i Electric Light | 161.55 | 134 . 13 | 21.32 | $156,136 |

| 2019 SAIDI (Proposed Adjusted) | Preliminary Performance | Target | Deadband | Preliminary Financial Penalty |
|---|---|---|---|---|
| Hawaiian Electric | 104.02 | 98.61 | 8.93 | $- |
| Maui Electric | 140.50 | 110.59 | 23.22 | $150,369 |
| Hawai' i Electric Light | 161.55 | 134.13 | 21.32 | $156,136 |

[28]D&O 37507 at 162.

[29]Hawaiian Electric response to PUC-HECO-IR-01, filed January 29, 2020.

| 2019 SAIFI (Current) | Preliminary Performance | Target | Deadband | Preliminary Financial Penalty |
|---|---|---|---|---|
| Hawaiian Electric | 1.092 | 1.103 | 0.088 | $- |
| Maui Electric[1] | 1.908 | 1.472 | 0.222 | $500,999 |
| Hawai'i Electric Light | 1.477 | 1.374 | 0.251 | $- |

| 2019 SAIFI (Proposed Adjusted) | Preliminary Performance | Target | Deadband | Preliminary Financial Penalty |
|---|---|---|---|---|
| Hawaiian Electric | 1.092 | 1.101 | 0.089 | $- |
| Maui Electric | 1.799 | 1.400 | 0.224 | $407,741 |
| Hawai'i Electric Light | 1.477 | 1.374 | 0.251 | $- |

As reflected above, there is no change for HECO or HELCO. Regarding MECO, which incorporates the Molokai and Lanai Divisions, as well as the Maui Division, MECO would have paid a financial penalty of $156,369 for the SAIDI PIM under the modified methodology, but would have paid approximately $93,258 less in financial penalty under the SAIFI PIM.[30] Thus, while not dispositive, it is worth noting that utilizing the updated methodology does not seem to result in a significant impact to customers.

The changes in methodology approved herein shall be applied uniformly and appropriately to both the determination of the PIM targets and the measurement of performance in order to maintain consistent intended results.

[30] 500,999 - 407,741 = 93,258.

## III.

## ORDERS

THE COMMISSION ORDERS:

1. Hawaiian Electric's first request, as set forth in its Application, to use an adjusted IEEE 1366 methodology for purposes of determining its targets and performance for the SAIDI and SAIFI PIMs, is granted.

2. The Commission and Parties may continue to monitor and address this methodology, as well as any other aspects of the SAIDI and SAIFI PIMs, in the context of the Post-D&O Working Group established in Docket No. 2018-0088.

3. This Docket is closed, unless otherwise ordered by the Commission.

DONE at Honolulu, Hawaii FEBRUARY 2, 2021.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By _____
James P. Griffin, Chair

By _____
Jennifer M. Potter, Commissioner

APPROVED AS TO FORM:

_____
Mark Kaetsu
Commission Counsel

By _____
Leodoloff R. Asuncion, Jr., Commissioner

2019-0110.ljk

CERTIFICATE OF SERVICE

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